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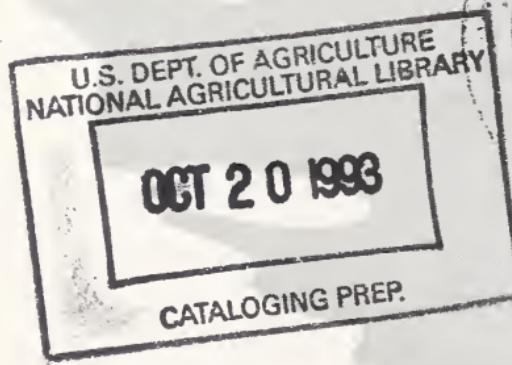
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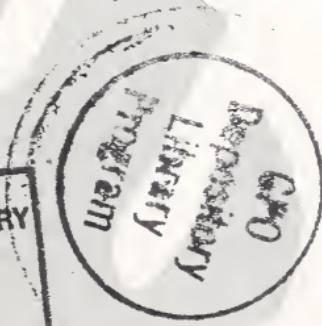
JAMES PASS

ARBORETUM

TREE TRAIL



13 SEP 1993



USDA Forest Service
The Northeastern Forest Experiment Station

1—Northern Red Oak (*Quercus rubra*)

Mature northern red oaks, the northernmost oak in the eastern U.S., may produce over 5,000 acorns in peak seasons. Its wood is used for posts, railroad ties and furniture, and was once used to make barrels for sugar and molasses. It has been extensively planted as an ornamental because of its symmetrical shape and brilliant fall foliage.

2—American Sycamore (*Platanus occidentalis*)

American sycamore is one of the largest hardwood trees in the east, commonly growing 100 feet tall and 3 to 8 feet in diameter. Its wood has been used for butcher blocks, tobacco and cigar boxes, and paper pulp. The tree is easily identified from its brown and white mottled and peeling bark. Fruit is a single ball that contains many seeds.

***3—Amur Cork Tree (*Phellodendron amurense*)**

The Amur cork tree, a native of northeast Asia, northern China and Japan, derives its common name from its thick, corky outer bark. The inner bark, yellowish in color, is used in China and Japan as a medicine. It makes an excellent shade tree because its sparse foliage allows enough sunlight to penetrate that grass can grow in its shadow.

4—Black Locust (*Robinia pseudoacacia*)

Black locust's wood is one of the densest in the U.S., almost dense enough to sink in water. This species originally had a small range in the central Appalachians, but is now found throughout the northeast and is even common in Europe. Because of its wide-spreading root system, its tendency to sprout and its ability to add nitrogen to the soil, black locust is frequently used on former strip-mine sites for erosion control.

5—Green Ash (*Fraxinus pennsylvanica*)

Green ash is very similar to white ash, so much so that the two trees are frequently confused. Habitat can be a helpful clue in identifying these ashes. White ash usually grows in drier woods whereas green ash is typically found along streams and in floodplains. Because of its good form, resistance to insects and disease, and ability to thrive in a variety of soils, it is a very popular ornamental and street tree.

***6—European Ash (*Fraxinus excelsior*)**

A native of Europe and Asia Minor, the European ash was introduced to this country in early colonial times. It is an unshapely tree, requiring large growing spaces to accommodate its size and hungry root-system. Despite these drawbacks, it remains a favorite among writers and the public in its homeland. Its velvety black winter-buds, unique to this ash, are a distinctive identification characteristic.

7—Honeylocust (*Gleditsia triacanthos*)

Honeylocust's immature seed pods contain a sweet pulp (hence the common name) which becomes bitter with maturity. Many urban and suburban American elm trees killed by Dutch elm disease in the earlier part of this century are being replaced by thornless, podless honeylocusts. Its strong, durable wood may be used for bows, and its thorns, for needles and frog gigs (spears).

8—White Oak (*Quercus alba*)

White oak's sweet-flavored acorns mature in early fall the same year the flowers are pollinated, and germinate upon falling to the ground in the autumn. Though white oak grows slowly and is difficult to transplant, it makes an excellent shade tree. This tree was the mainstay in North American ships prior to the use of steel. Today, whiskey and wine barrels are made from white oak because its wood enhances flavor.

9—Tuliptree (*Liriodendron tulipifera*)

Tuliptree, or yellow-poplar, is the tallest hardwood species in the eastern U.S. It is not related to true poplars but is actually a member of the Magnolia family. The tree's large green and orange flowers are the source of its common name. They appear in spring, producing considerable nectar which is often used by bees. In one season, a tree less than 20 years old may yield as much as 8 pounds of nectar, the equivalent of 4 pounds of honey.

***10—Ginkgo (*Ginkgo biloba*)**

A native of southeast China, this tree is reputedly the oldest living species in the world today, with fossil evidence of its existence over 10 million years ago. Male trees are preferred for streetsides because they don't produce foul-smelling fruits, as do the females.

***11—Crimean Linden (*Tilia x euchlora*)**

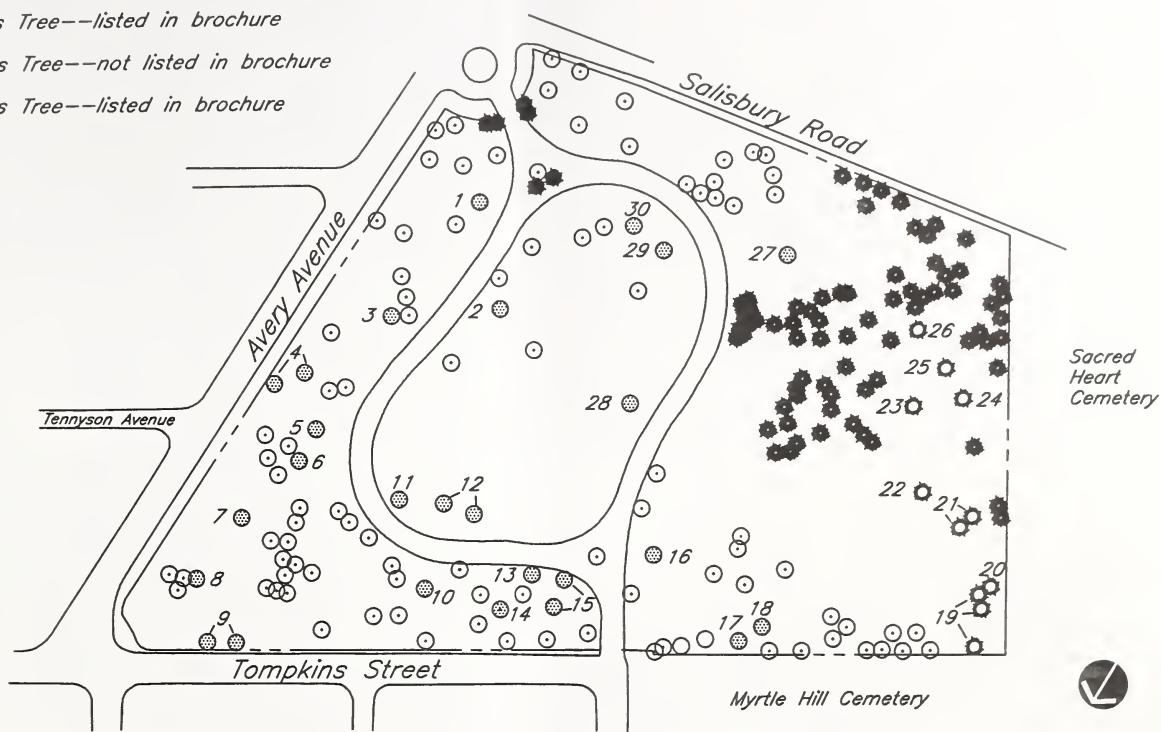
The crimean linden, a relative of the American basswood, is thought to be a cross between the littleleaf and an unknown linden, originating in Germany about 1860. In England and Wales, it and its relatives are called lime trees. The word "lime," which comes from German, Dutch and Danish origins, means "fibers," and refers to the tree's fibrous inner bark. The crimean linden is an excellent street

○ Deciduous Tree--not listed in brochure

● Deciduous Tree--listed in brochure

◆ Coniferous Tree--not listed in brochure

◆ Coniferous Tree--listed in brochure



tree because it grows in any well-drained soil and can thrive in urban environments.

12—American Basswood (*Tilia americana*)

Like all members of the Linden Family, American basswood has a tough inner bark which Native Americans fashioned into a tangle-free rope and thread, sometimes used to bind-up wounds. The Iroquois carved masks from the sapwood of living trees, splitting limbs off the trunks and hollowing them out from behind.

*13—London Planetree (*Platanus x acerifolia*)

Planted commonly along city streets, London planetree is a familiar sight to people in temperate North America. Although the tree's exact origin is unknown, it is considered to be a hybrid from a natural cross of the American sycamore and the Oriental plane-tree. First identified in England, the London planetree has proven to be hardier and more tolerant of urban conditions than either of its parent species. Fruit is in clusters of two or more seed balls.

14—Red Maple (*Acer rubrum*)

The twigs, buds, fruit and fall foliage of this tree live up to its name—each bears a marked red tint. This maple grows under a variety of conditions, but is most commonly found on moist or wet soils, frequently in swamps. Its ruby-red flowers are often the first to bloom in spring.

15—Northern Catalpa (*Catalpa speciosa*)

A large tree native to the midwest, northern catalpa has been widely planted throughout the east where it occasionally escapes and becomes established along roads, fields and forest edges. Nearly all catalpa wood is used for fenceposts because of its natural durability. The tree's cigar-shaped seed pods persist through the winter.

*16—Norway Maple (*Acer platanoides*)

Norway maple, one of the most commonly planted ornamental trees in the U.S., is native to Europe where its range extends from Scandinavia to Greece. It was brought to this country from England in the 1760s. Its wide-spread use as a lawn and street tree is due to its extended foliage period and pollution tolerance. The mellow yellow fall color of Norway maple pales in comparison to our native maples' deep and varied hues of red, orange and yellow. Norway maple has been used for syrup production in Europe and the U.S. Many claim that it is the best-tasting syrup of all the maples.

17—Silver Maple (*Acer saccharinum*)

Silver maple is a favorite ornamental because it is fast-growing and its weeping branches and silvery green leaves produce cooling shade. However, because of its brittle wood and susceptibility to heart-rot, large limbs and main stems easily break in wind and ice storms—a characteristic that has led to legislation in some towns and cities restricting the planting of this tree near structures, roads and utility lines.

18—Sugar Maple (*Acer saccharum*)

Sugar maple, the Northeast's most common woodland deciduous tree, is best known for its use in maple syrup production. One tree can produce 5 to 40 gallons of syrup per year depending on size and climatic conditions (it takes 32 gallons of raw sap to make 1 gallon of syrup). Native Americans taught the early pioneers how to collect and boil sugar maple sap.

19—Jack Pine (*Pinus banksiana*)

Jack pine is the northernmost pine in North America. Its cones are serotinous, that is, they remain closed and do not release their seeds until they are exposed to high temperatures like those produced by forest fires. Kirtland's warbler, an endangered bird species, breeds only in young jack pine forests in northern Michigan.

20—Red Pine (*Pinus resinosa*)

Red pine, one of the most extensively planted trees in the northern U.S. and Canada, is frequently grown in plantations, reforestation projects and along highways. Like eastern hemlock, red pine's bark was once used for tanning leather, but has since been replaced by synthetic compounds.

***21—Scots Pine (*Pinus sylvestris*)**

Scots, or Scotch, pine has been widely planted in North America. It was introduced from Europe long ago, probably in colonial days, as a potential lumber source. Lacking the qualities of some of our native pines, the Scots pine was abandoned for timber, but is still planted as an ornamental.

22—Baldcypress (*Taxodium distichum*)

Baldcypress is the only deciduous conifer (the tree drops its needles in the fall and grows new ones in the spring) native to the southeastern U.S. Its durable wood has been used for railroad ties, greenhouse benches, posts and construction work. The tree's most distinctive feature is its root system. Several descending roots provide anchorage; and, on wetter sites, many shallow, wide-spreading roots have peculiar conical structures called knees.

23—Eastern Hemlock (*Tsuga canadensis*)

In the past, gigantic hemlocks were often felled and stripped of their bark, the huge trunks left to slowly decay in the forest. The hemlock's bark, laden with tannic acid, was in great demand for tanning hides, but its wood was much inferior to that of other native species. Pioneers made a tea rich in vitamin C from its leafy twigs and used its branches for brooms.

***24—Norway Spruce (*Picea abies*)**

The Norway spruce is native to northern and central Europe where its towering, massive form is an important source of timber. It was introduced into this country rather early as an ornamental tree and has since been planted for windbreaks and cultivated for Christmas trees.

25—Engelmann Spruce (*Picea engelmannii*)

The Engelmann spruce is an attractive tree native to higher elevations in the Rocky Mountains. They are planted extensively in eastern North America and Europe as ornamentals. The bluish needle coloration is caused by surface waxes and intensifies with age.

26—Douglas-Fir (*Pseudotsuga menziesii*)

The Douglas-fir is one of the most abundant and valuable trees in western North America. A long-lived tree, it sometimes lives for 800 to 1,000 years. Its soft, light wood is extremely valuable and is used primarily for construction. The Douglas-fir is a good ornamental tree for gardens and parks in northern climates around the world.

27—Yellowwood (*Cladrastis kentukea*)

The yellowwood is one of our rarer native trees. Because of its attractive form and flowers, it is frequently planted beyond its native range as a shade or ornamental tree, often under the name Virgilia. Both its common and scientific names refer to the tree's bright yellow wood which was once used for gunstocks and yellow dye.

28—Kentucky Coffeetree (*Gymnocladus dioicus*)

Syracuse is the northernmost limit of this species' natural range. Male and female flowers occur on separate trees; this arrangement is called dioecious, which comes from the Greek meaning two houses. Its fruit is a large chocolate-brown pod containing several seeds. These seeds were roasted and used as a coffee substitute by pioneers.

29—Butternut (*Juglans cinerea*)

Also called white walnut, the nuts of this tree were boiled by Native Americans to obtain an oil from which a butter-like substance was made. Butternut has a lighter, weaker wood than its close relative, black walnut. The yellow or orange-yellow dye that can be obtained from its bark and fruit husks was once used by early settlers. During the Civil War, its use was widespread when other sources of yellow dye were unavailable.

30—Black Walnut (*Juglans nigra*)

Black walnut occurs in mixed hardwood stands, pure stands are rare in the wild. This may be due to a substance called juglone that older, established trees leach into the soil. Some scientists claim that juglone keeps seeds from sprouting, so many plants can not grow under walnuts. Black walnut's exceptional wood is prized for furniture and cabinet making. Its rich-flavored fruit is used in candies, confections, and ice creams. Ground shells from the nuts were used during World War II in nut shell blasters to clean airplane pistons. They have also been used as additives to drilling-mud in oil drilling operations, as filler to dynamite, as a nonslip agent in automobile tires and as a flour-like carrying agent in various insecticides.

Pass Arboretum

An arboretum is a collection of trees and shrubs grown primarily for educational and scientific purposes.

James Pass, the arboretum's namesake, was the son of an English potter. His father, Richard, started his American career at the Onondaga Pottery Company (which became Syracuse China), when he settled in the village of Geddes in 1875. When James was still a young boy, he was apprenticed to a potter in Trenton, New Jersey. Later, he studied chemistry, as it related to pottery production, at Syracuse University. He became superintendent--and eventually president--of the Onondaga Pottery Company when he accepted a position in 1884. He is best known for his efforts toward perfecting a quality, American-made china.



James Pass

Pass Arboretum, a "viewing park" of trees and shrubs, was donated to the city of Syracuse on Arbor Day, 1925, by James' wife Adelaide. The 13.8 acre plot sits at the city's west edge, on Avery Avenue near Burnet Park. Adelaide never intended that her gift be used as a traditional park, but rather as a "scientifically managed collection of trees and shrubs able to survive the climate of Central New York." It was with this in mind that staff from the city's Parks Department and the State College of Forestry designed the arboretum. The designers hoped that their planting schemes would demonstrate to students, landscape gardeners and home-builders the variety of shrubs and trees—and their possible planting arrangements—adapted to this region.

The original site design consisted of a long drive between two formal gates, with a pond at the northeast corner of the property. Trees and shrubs were planted on either side of the drive and on the western hillside, and a shrub collection was arranged along Tompkins Street. Most of the work for the Arboretum—grading, removal of undesirable trees and construction of the drive—took place in 1927. This included a total of 112 trees and 57 species, contributed by the Pass estate and various clubs and individuals. Final grading and planting was completed by the Parks Department in 1935. Since then, some features, such as the gardener's house, the shrub collection demonstrating formal arrangements, and the pond, have been lost. However, the primary components of the original design remain intact: Pass Arboretum still serves as a special collection of trees and a place of solitude where people can come to learn or relax.

About This Brochure

This brochure was designed as a self-guided tour through the Arboretum beginning at the Avery Avenue and Salisbury Road entrance. The numbers preceding each tree description match those on the map. Labels on the trees include common and scientific names, maximum height, and brief descriptions of its leaves and bark. Find the labeled trees, using the map as a guide, and read about them in the brochure. *Trees that are not labeled are not highlighted.*

Most of the trees described here are indigenous (that is, grow naturally here, and were here when the pioneers arrived) to the United States, and many to the Northeast. However, a few trees from Asia and Europe, closely related to our native species, are also listed (these are marked with a “*”). Many of the non-native trees may seem familiar to you: They are commonly planted on streetsides, private yards and parks. While you are looking at the trees, see if you can identify the features shared by the introduced species and their American relatives.

Other Trees

Once you have learned about the trees in this brochure, you can try your hand at locating and identifying the other trees in the Arboretum. Tree identification books can be borrowed from your local library. Some of the other trees in the arboretum are:

Red mulberry

Northern red cedar

Japanese zelkova

Japanese larch

White willow

White spruce

Shagbark hickory

Bechtel crabapple

Black cherry

Castor aralia

Hedge maple

American beech

Washington hawthorn

European beech

Sanara false-cypress

Copper beech

Oriental arborvitae

Paper birch

Japanese yew

European mountain-ash

Carolina hemlock

Scarlet oak

White fir

Swamp-white oak

Western redcedar

English oak

For More Information

The books listed below were used to compile information included in this brochure and are good references if you would like to learn more about trees and how to identify them.

The Complete Trees of North America: Field Guide and Natural History by Thomas S. Elias (1980). Published by Book Division, Times Mirror Magazines, Inc.

The Tree Identification Book by George W.D. Symonds (1958). Published by William Morrow and Company, Inc.

A Field Guide to Eastern Trees: Eastern United States and Canada (Peterson Field Guide Series, 11) by George A. Petrides (1988). Published by Houghton Mifflin.

The Book of Trees for Positive Identification by William Carey Grimm (1962). Published by The Stackpole Company.

Acknowledgements

Many thanks to the generous people who donated their time and talent to preparing this brochure: Bob Fewster, Heidi Kopf, Don Leopold, and the Botany Club, SUNY College of Environmental Science and Forestry; Lyle Halbert and Don Robbins, Syracuse Department of Parks; and Joanne Arany, Syracuse Department of Community Development.

The photograph of James Pass appears courtesy of the Onondaga Historical Association.

Directions to the Arboretum

By Car: From Rte. 690 West Exit 10, N. Geddes St. Turn left off ramp. Stay on N. Geddes for 2 traffic lights; turn right on W. Genesee St. Stay on W. Genesee for 9 traffic lights; turn left on Avery Ave. Stay on Avery Ave for 2 stop signs; Pass Arboretum is on the right. Park on side streets.

From Rte. 690 East Exit 12, W. Genesee St. Turn right off ramp. Stay on W. Genesee for 13 traffic lights; turn left on Avery Ave. Follow directions for Rte. 690 West above.

By Centro Bus: Take the Solvay 8B, 8C or 8E. Get off at the corner of Bryant and Avery Avenues. Cross Avery Avenue to the Arboretum entrance.

